

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  FP72262AJT	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No.  PCT/US2004/019276	International filing date (day/month/year)  15/06/2004	(Earliest) Priority Date (day/month/year)  18/06/2003
Applicant  OPTIVA, INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box II).

3.  **Unity of invention is lacking** (see Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b.  none of the figures is to be published with the abstract.

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International application No.

PCT/US2004/019276

**Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)**

A simple, reliable and cost-effective super-twisted nematic liquid crystal display is disclosed. The liquid crystal display is suitable for application in all portable electronic devices due to the reliable and simple design employing a thin crystal film polarizer (101,107) and is particularly suitable for outdoor display applications due to its increased environmental robustness. The thin crystal film polarizer of negative birefringence also increases the viewing characteristics of the liquid crystal display and provides additional advantages. The disclosed liquid crystal display includes a front and rear polarizer and a super-twisted nematic liquid crystal layer (104), wherein the liquid crystal layer has a twist angle from about 230° to about 250°. The front and rear transmission axes of the polarizers are angularly displaced by about 70° to about 86° relative to each other.

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International Application No

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G02F1/139 G02F1/1335

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/035925 A1 (MATSUMAGA MASAAKI ET AL) 1 November 2001 (2001-11-01) paragraphs '0053!-'0056!; figures 1,2 ----	1-32
A	LAZAREV P ET AL: "E-type Polarizers and Retarders" PROCEEDINGS OF THE SPIE, SPIE, BELLINGHAM, VA, US, vol. 4819, 2002, pages 46-55, XP002261227 ISSN: 0277-786X. paragraph 'DISCUSSION!; figure 11 ---- -/-	1-32

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## ° Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
2 November 2004	01/12/2004
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Hauser, M

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International Application No PCT/US2004/019276
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>BOBROV Y ET AL: "Thin film polarizers for liquid crystal displays"          PROCEEDINGS OF THE SPIE - THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING SPIE-INT. SOC. OPT. ENG USA, vol. 4511, June 2001 (2001-06), pages 133-140, XP002303466          ISSN: 0277-786X          Sections 1.1, 1.2, 4</p> <p>-----</p>	
A	<p>COBB, C., NAZAROV, V., IGNATOV, L., LAZAREV, P., PAUKSHTO, M.: "Application Specific Polarizers"          ASID'00 CONFERENCE PROCEEDINGS,          18 - 20 October 2000, pages 475-479,          XP002303467          china          the whole document</p> <p>-----</p>	

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/US2004/019276

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 2001035925	A1	01-11-2001	WO 9743685 A1	20-11-1997
			JP 3563233 B2	08-09-2004
			JP 10073797 A	17-03-1998
			JP 2002072192 A	12-03-2002
			JP 2002131717 A	09-05-2002
			JP 2003262847 A	19-09-2003
			TW 510504 Y	11-11-2002